

The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Cancelled)
2. (Currently Amended) A proportional solenoid control valve ~~as set forth in claim 1, wherein comprising:~~
a solenoid;
a magnetic movable member having a magnetic attraction force applied by the solenoid;
and
a flat spring for engaging an outer periphery section of the flat spring with a non-magnetic cylindrical member for guiding the magnetic movable member, and for engaging an inner periphery section of the flat spring with the magnetic movable member so as to balance in power with the magnetic movable member due to the magnetic attraction force,
the flat spring is including a flat square spring which has cutouts at an inner side of four corners thereof so as to obtain uniform deformation displacement, and which is strong and is wide in spring constant maintaining width with respect to the spring displacement, ~~wherein~~ the flat square spring is ~~applied~~ having a low friction ~~Teflon~~ coating on ~~one~~ a supporting point side face.

3. (Currently Amended) A proportional solenoid control valve ~~as set forth in claim 1, wherein comprising:~~
a solenoid;

a magnetic movable member having a magnetic attraction force applied by the solenoid;
and

a flat spring for engaging an outer periphery section of the flat spring with a non-
magnetic cylindrical member for guiding the magnetic movable member, and for engaging
an inner periphery section of the flat spring with the magnetic movable member so as to
balance in power with the magnetic movable member due to the magnetic attraction force,

the flat spring is being a circular flat spring has having a plurality of cutouts at four
points of inner section so that the distance between the supporting points does not change
even when the load has changed, each of the cutouts being formed in a substantially spiral
shape, the spiral shape including an outer arc shape, an inner arc shape and a straight shape
for connecting the outer and inner arc shapes.

4. (Currently Amended) A proportional solenoid control valve ~~as set forth in~~
~~claim 1,~~ further comprising:

a solenoid;
a magnetic movable member having a magnetic attraction force applied by the solenoid;
a flat spring for engaging an outer periphery section of the flat spring with a non-
magnetic cylindrical member for guiding the magnetic movable member, and for engaging
an inner periphery section of the flat spring with the magnetic movable member so as to
balance in power with the magnetic movable member due to the magnetic attraction force;
and

a sealing mechanism which compensates dimensional instability by combining a
rubber having smaller displacement and smaller hardness and a rubber having greater
hardness at a section corresponding to an orifice.